

In response, the applicants have amended claim 6 to more clearly define the invention and further distinguish over the cited references. The claims are now considered to be patentably distinguishable over the cited references for the reasons discussed hereinbelow.

The problem solved by the present invention is that of providing a means for fastening a baffle directly to a heat exchanger, and, more particularly, to a clam shell heat exchanger. This is accomplished by providing an indentation in each half of the clam shell structure which, when folded together, provide an elongate pocket for receiving a fastener therein.

The Bockhurst reference shows a sheet metal heat exchanger having a plurality of serpentine passages that interconnect inlet and outlet openings therein. There is no provision for attaching a fastener thereto, in the plane of the heat exchanger or otherwise. Further, there is no discussion or consideration of the problem or the solution as shown in the claims by the applicant. The Examiner has suggested that the openings 14' and 15' "read on" the applicants recited claims. The applicants believe that the claims, as now amended, clearly distinguish over the Bockhurst reference. Clearly, the openings 14' and 15' cannot reasonably be considered to be fastener receiving means since they are designed for conducting the flow of gas therethrough.

The Aid reference shows a container for heating or cooling fluids, and for warming plasma in particular. It provides a serpentine passageway that interconnects an inlet 121 and an outlet 122. As set forth in column 6, lines 16-32, the container comprises a generally flat bag whose walls comprise relatively thin, generally flexible sheets of plastic material. At the end of the bag, a pair of elongated tapered pockets 129 are provided for receiving parallel arms of a frame as shown in Figs. 7 and 10. As further described in column 7, lines 1-13, the tapered pockets allow the opposed arms of the frame element to be inserted to thereby put the bag in tension such that it provides a substantially straight leading edge so that the bag and frame combination can be easily inserted into a narrow receiving slot such as space 25 as shown in Fig. 7.

The Examiner has equated the pockets 106 and 107 of the plastic bag with the pockets formed between the sheet metal panel sides of the present invention for the purpose of receiving a fastener therein. The applicants disagree and believe that the two are substantially different in both structure and purpose. Whereas the present invention is a clamshell heat exchanger formed from a pair of sheet metal sides, the Aid container comprises an integrally formed bag structure having a pair of integrally formed passages

for receiving the legs of a frame for stretching out the bag and holding it in a planer form. Thus, the structure as recited in claim 6 is not shown or suggested by the Aid reference, and neither would the teachings of the Aid reference be useful in rendering the present invention oblivious. That is, the teaching of the openings 106 and 107 in a plastic bag would not obviously lead one to the fastener receiving means in a sheet metal clamshell heat exchanger.

The Dempsey reference does show a clamshell heat exchanger but does not show or suggest the use of a fastener receiving means in a land portion thereof.

For the reasons discussed hereinabove, the teachings of the Aid reference would not be obviously combinable with the apparatus of the Dempsey reference in order to obtain the applicants invention.

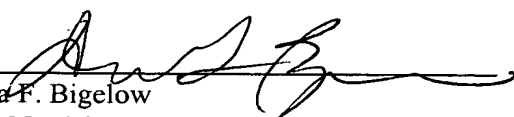
For the reasons discussed hereinabove the applicants believe that the claims, as amended are patentable distinctive over the cited references. A reconsideration of the Examiners rejections and a passing of the case to issue is therefore respectfully requested.

If the Examiner believes that contact with Applicant's attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicant's attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-0289.

Respectfully submitted,

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PATENT TRADEMARK OFFICE

Attachment A

Please amend the paragraph on page 5, line 11 as follows:

In the formation of a clamshell heat exchanger, it is common practice to begin with a generally rectangular shaped piece of sheet metal, which is then stamped to form the two halves of the serpentine passageway, with the stamping then being folded in the middle to bring the two halves together to form the final passageway. Reference is made to Fig. 2 wherein the two halves are shown at 26 and 27 with a fold line 28 therebetween. As will be seen, each side 26 and 27 has a serpentine shape stamped therein, with one being the mirror image of the other and having four passes. When the piece is folded at the fold line 28, the stamped portions cooperate to form the serpentine passageway for carrying the hot gases from the inlet end 17 to the outlet end 18. At those land areas 29 where no stamping has occurred, i.e. at the edges and in those areas between the various passes, the folding of the two sides 26 and 27 result in a two ply structure with two thicknesses of the sheet metal pressed together. In the vicinity of the fold line 28, the fold itself will hold those two thicknesses together. At the other end, (that is, at the coming together of the two end [29] 30 and 31 as shown in Fig. 2), as well as the lateral edge 32 and 33, it is necessary to provide some fastening means to secure the two halves together to prevent leakage of the hot gases from the serpentine passageway. This is usually done by crimping or the like.

Attachment B

The paragraph being at line 11, page 5 has been amended as follows:

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In the formation of a clamshell heat exchanger, it is common practice to begin with a generally rectangular shaped piece of sheet metal, which is then stamped to form the two halves of the serpentine passageway, with the stamping then being folded in the middle to bring the two halves together to form the final passageway. Reference is made to Fig. 2 wherein the two halves are shown at 26 and 27 with a fold line 28 therebetween. As will be seen, each side 26 and 27 has a serpentine shape stamped therein, with one being the mirror image of the other and having four passes. When the piece is folded at the fold line 28, the stamped portions cooperate to form the serpentine passageway for carrying the hot gases from the inlet end 17 to the outlet end 18. At those land areas 29 where no stamping has occurred, i.e. at the edges and in those areas between the various passes, the folding of the two sides 26 and 27 result in a two ply structure with two thicknesses of the sheet metal pressed together. In the vicinity of the fold line 28, the fold itself will hold those two thicknesses together. At the other end, (that is, at the coming together of the two end 30 and 31 as shown in Fig. 2), as well as the lateral edge 32 and 33, it is necessary to provide some fastening means to secure the two halves together to prevent leakage of the hot gases from the serpentine passageway. This is usually done by crimping or the like.

Attachment C

6. (Amended) A clamshell heat exchanger panel comprising:

a pair of formed sheet metal panel sides brought together in face-to-face relationship to form a dual sided structure that includes a channel portion and a land portion, said channel portion comprising a plurality of sequential [serpentine] by interconnected passages for the conduct of hot gas flow from an inlet opening to a discharge opening and said land portion being adjacent said channel portion and comprising a composite structure of said two sides pressed together; and

at least one [elongate pocket formed] fastener receiving means disposed in said land portion, [with its] said fastener receiving means being formed as an elongate pocket having an axis [being] in the plane of said composite structure[, for receiving a fastener therein].

Attachment D

6. (Amended) A clamshell heat exchanger panel comprising:
a pair of formed sheet metal panel sides brought together in face-to-face relationship to form a dual sided structure that includes a channel portion and a land portion, said channel portion comprising a plurality of sequential by interconnected passages for the conduct of hot gas flow from an inlet opening to a discharge opening and said land portion being adjacent said channel portion and comprising a composite structure of said two sides pressed together; and

at least one fastener receiving means disposed in said land portion, said fastener receiving means being formed as an elongate pocket having an axis in the plane of said composite structure.